

Please amend the claims as follows:

Listing of Claims:

1. (Original): A process for the manufacture of 3-phytyl-2,5,6-trimethylhydroquinone-1-acetate, and optionally therefrom tocopheryl acetate, which comprises either

(a) C-alkylating 2,3,6-trimethylhydroquinone-1-acetate with isophytol or phytol in the presence of a sulphur(VI) containing catalyst of the formula R^1SO_2OH , wherein R^1 signifies hydroxy, halogen, lower alkyl, halogenated lower alkyl or aryl, in an aprotic organic solvent, or

(b) O-alkylating 2,3,6-trimethylhydroquinone-1-acetate with a phytol halide in a polar aprotic organic solvent in the presence of a base, and subjecting the so-obtained 4-O-phytyl-2,3,6-trimethylhydroquinone-1-acetate to a rearrangement reaction,

and in each case optionally submitting the so-obtained 3-phytyl-2,5,6-trimethylhydroquinone-1-acetate to a ring closure reaction to produce tocopheryl acetate.

2. (Original): A process according to claim 1 for the manufacture of 3-phytyl-2,5,6-trimethylhydroquinone-1-acetate, which comprises C-alkylating 2,3,6-trimethylhydroquinone-1-acetate with isophytol or phytol in the presence of a sulphur(VI) containing catalyst of the formula R^1SO_2OH , wherein R^1 signifies hydroxy, halogen, lower alkyl, halogenated lower alkyl or aryl, in an aprotic organic solvent.

3. (Original): A process according to claim 1 for the manufacture of 3-phytyl-2,5,6-trimethylhydroquinone-1-acetate, which comprises O-alkylating 2,3,6-trimethylhydroquinone-1-acetate with a phytol halide in a polar aprotic organic solvent in the presence of a base, and subjecting the so-obtained 4-O-phytyl-2,3,6-trimethylhydroquinone-1-acetate to a rearrangement reaction.

4. (Currently amended): A process for the manufacture of tocopheryl acetate, which comprises submitting 3-phytyl-2,5,6-trimethylhydroquinone-1-acetate or

an isomer thereof, ~~namely (Z)-4-hydroxy-2,3,6-trimethyl-5-(3,7,11,15-tetramethylhexadec-3-enyl)-phenyl acetate, (E)-4-hydroxy-2,3,6-trimethyl-5-(3,7,11,15-tetramethylhexadec-3-enyl)-phenyl acetate or 4-hydroxy-2,3,6-trimethyl-5-[3-(4,8,12-trimethyltridecyl)-but-3-enyl]-phenyl acetate,~~ to a ring closure reaction by treating said acetate with an acidic catalyst in the presence or absence of a solvent.

5. (Original): A process according to claim 1 for the manufacture of tocopheryl acetate, which comprises C-alkylating 2,3,6-trimethylhydroquinone-1-acetate with isophytol or phytol in the presence of a sulphur(VI) containing catalyst of the formula R^1SO_2OH , wherein R^1 signifies hydroxy, halogen, lower alkyl, halogenated lower alkyl or aryl, in an aprotic organic solvent, and submitting the so-obtained 3-phytyl-2,5,6-trimethylhydroquinone-1-acetate to a ring closure reaction by treating it with an acidic catalyst in the presence or absence of a solvent to produce the tocopheryl acetate.

6. (Original): A process according to claim 1 for the manufacture of tocopheryl acetate, which comprises O-alkylating 2,3,6-trimethylhydroquinone-1-acetate with a phytyl halide in a polar aprotic organic solvent in the presence of a base, subjecting the so-obtained 4-O-phytyl-2,3,6-trimethylhydroquinone-1-acetate to a rearrangement reaction, and submitting the so-obtained 3-phytyl-2,5,6-trimethylhydroquinone-1-acetate to a ring closure reaction by treating it with an acidic catalyst in the presence or absence of a solvent to produce tocopheryl acetate.

7. (Currently amended): A process according to claim 1 ~~any one of claims 1, 2 and 5,~~ wherein the sulphur(VI) containing catalyst of the formula R^1SO_2OH used in the C-alkylation is selected from the group consisting of sulphuric acid, fluorosulphonic acid, methane- or ethane-sulphonic acid, trifluoromethanesulphonic acid and ~~[[or]]~~ benzene- or p-toluenesulphonic acid, ~~preferably trifluoromethanesulphonic acid or p-toluenesulphonic acid.~~

8. (Currently amended): A process according to claim 1 ~~any one of claims 1, 2, 5 and 7,~~ wherein the aprotic organic solvent used in the C-alkylation is a polar aprotic organic solvent, ~~particularly an aliphatic or cyclic ketone, e.g. diethyl ketone,~~

~~isobutyl methyl ketone, cyclopentanone or isophorone; an aliphatic or cyclic ester, e.g. ethyl acetate, isopropyl acetate or γ -butyrolactone; or a dialkyl or alkylene carbonate, e.g. dimethyl carbonate, diethyl carbonate, ethylene carbonate or propylene carbonate; or is a non-polar aprotic organic solvent, particularly an aliphatic hydrocarbon, e.g. hexane, heptane or octane; or an aromatic hydrocarbon, e.g. benzene, toluene or an xylene, or is a biphasic solvent system containing both kinds of aprotic organic solvents, preferably ethylene and/or propylene carbonate as the polar aprotic organic solvent and hexane, heptane or octane as the non-polar aprotic organic solvent.~~

9. (Currently amended): A process according to claim 1 ~~any one of claims 1, 2, 5, 7 and 8~~, wherein the sulphur(VI) containing catalyst of the formula R^1SO_2OH used in the C-alkylation is present in an amount of from about 0.01 mol.% to about 1 mol.%, ~~preferably in an amount of about 0.05 mol.% to about 0.1 mol.%,~~ based on the molar amount of phytol or isophytol, whichever is employed.

10. (Currently amended): A process according to claim 1 ~~any one of claims 1, 2 and 5 to 8~~, wherein the C-alkylation is effected at temperatures from about 20°C to about 160°C, ~~preferably from about 80°C to about 150°C, and most preferably from about 100°C to about 127°C.~~

11. (Currently amended): A process according to claim 1 ~~any one of claims 1, 3 and 6~~, wherein the phytol halide used in the O-alkylation is phytol bromide or phytol chloride, ~~preferably phytol bromide.~~

12. (Currently amended): A process according to claim 1 ~~any one of claims 1, 3, 6 and 11~~, wherein the base used in the O-alkylation is sodium hydride.

13. (Currently amended): A process according to claim 1 ~~any one of claims 1, 3, 6, 11 and 12~~, wherein the aprotic organic solvent used in the O-alkylation is a polar aprotic organic solvent, ~~particularly an aliphatic or cyclic ketone, e.g. diethyl ketone, isobutyl methyl ketone, cyclopentanone or isophorone; an aliphatic or cyclic ester, e.g. ethyl acetate, isopropyl acetate or γ -butyrolactone; a dialkyl or alkylene~~

~~carbonate, e.g. dimethyl carbonate, diethyl carbonate, ethylene carbonate or propylene carbonate; or a dialkylformamide, e.g. dimethylformamide or dibutylformamide.~~

14. (Currently amended): A process according to claim 1 ~~any one of claims 1, 3, 6 and 11 to 13~~, wherein the base for the O-alkylation is used in excess relative to the amount of 2,3,6-trimethylhydroquinone-1-acetate, ~~in particular in a molar excess of about 5 to about 30%, preferably about 10 to about 20%.~~

15. (Currently amended): A process according to claim 1 ~~[[any one of claims 1, 3, 6 and 11 to 14]]~~, wherein the O-alkylation is effected at temperatures from about -20°C to about +30°C, ~~preferably from about 10°C to about +15°C, and most preferably from about 100°C to about 127°C.~~

16. (Currently amended): A process according to claim 1 ~~any one of claims 1, 3, 6 and 11 to 15~~, wherein the rearrangement reaction following the O-alkylation is suitably performed in the presence of an acidic catalyst, ~~in particular a Friedel-Crafts catalyst such as boron trifluoride etherate~~, in an aprotic organic solvent and at temperatures below about 20°C.

17. (Currently amended): A process according to claim 16, wherein the aprotic organic solvent is an alkane, ~~e.g. hexane~~; a halogenated alkane, ~~e.g. carbon tetrachloride~~; or a mixture[[s]] of these two types of aprotic organic solvents, ~~e.g. a mixture of hexane and carbon tetrachloride.~~

18. (Currently amended): A process according to claim 16 ~~or claim 17~~, wherein the rearrangement reaction is performed at temperatures from about -28°C to about -23°C.

19. (Currently amended): A process according to claim 1 ~~any one of claims 1, 4 to 6~~, wherein the ring closure is effected by treating said acetate with an acidic catalyst which is a sulphur(VI) containing catalyst of the formula R^1SO_2OH wherein R^1 signifies hydroxy, halogen, lower alkyl, halogenated lower alkyl or aryl, ~~particularly sulphuric acid, fluorosulphonic acid, methane or ethane sulphonc acid,~~

~~trifluoromethanesulphonic acid or benzene or p-toluenesulphonic acid, preferably trifluoromethanesulphonic acid or p-toluenesulphonic acid.~~

20. (Currently amended): A process according to claim 1 ~~any one of claims 1, 4 to 6 and 19~~, wherein the ring closure is effected in a polar aprotic organic solvent, ~~particularly an aliphatic or cyclic ketone, e.g. diethyl ketone, isobutyl methyl ketone, cyclopentanone or isophorone; an aliphatic or cyclic ester, e.g. ethyl acetate, isopropyl acetate or γ -butyrolactone; or a dialkyl or alkylene carbonate, e.g. dimethyl carbonate, diethyl carbonate, ethylene carbonate or propylene carbonate.~~

21. (Currently amended): A process according to claim 1 ~~any one of claims 1, 4 to 6, 19 and 20~~, wherein the catalyst used in the ring closure is present in an amount of from about 0.01 mol.% to about 10 mol.%, ~~preferably in an amount of about 0.1 to about 5 mol.%,~~ based on the molar amount of the 3-phytyl-2,5,6-trimethylhydroquinone-1-acetate.

22. (Currently amended): A process according to claim 1 ~~[[any one of claims 1, 3, 6 and 11 to 14]]~~, wherein the ring closure reaction is effected at temperatures from about 20°C to about 160°C, ~~preferably from about 80°C to about 140°C.~~

23. (Original): The compound 3-phytyl-2,5,6-trimethylhydroquinone-1-acetate, including each of its stereoisomers (E,all-rac)-3-phytyl-2,5,6-trimethylhydroquinone-1-acetate, (Z,all-rac)-3-phytyl-2,5,6-trimethylhydroquinone-1-acetate, (E,R,R)-3-phytyl-2,5,6-trimethylhydroquinone-1-acetate and (Z,R,R)-3-phytyl-2,5,6-trimethylhydroquinone-1-acetate.

24. (Original): The compound 4-hydroxy-2,3,6-trimethyl-5-[3-(4,8,12-trimethyltridecyl)-but-3-enyl]phenyl acetate.

25. (New): A process according to claim 4, wherein the 3-phytyl-2,5,6-trimethylhydroquinone-1-acetate or an isomer thereof is (Z)-4-hydroxy-2,3,6-trimethyl-5-(3,7,11,15-tetramethylhexadec-3-enyl)-phenyl acetate, (E)-4-hydroxy-2,3,6-trimethyl-5-

(3,7,11,15-tetramethylhexadec-3-enyl)-phenyl acetate, or 4-hydroxy-2,3,6-trimethyl-5-[3-(4,8,12-trimethyltridecyl)-but-3-enyl]-phenyl acetate.

26. (New): A process according to claim 8, wherein the polar aprotic organic solvent is an aliphatic or cyclic ketone; an aliphatic or cyclic ester; or a dialkyl or alkylene carbonate; and the non-polar aprotic organic solvent is an aliphatic hydrocarbon or an aromatic hydrocarbon.

27. (New): A process according to claim 26, wherein the aliphatic or cyclic ketone is diethyl ketone, isobutyl methyl ketone, cyclopentanone, or isophorone; the aliphatic or cyclic ester is ethyl acetate, isopropyl acetate, or γ -butyrolactone; the dialkyl or alkylene carbonate is dimethyl carbonate, diethyl carbonate, ethylene carbonate, or propylene carbonate; the aliphatic hydrocarbon is hexane, heptane, or octane; and the aromatic hydrocarbon is benzene, toluene, or xylene.

28. (New): A process according to claim 8, wherein the aprotic organic solvent used in the C-alkylation is a biphasic solvent system containing ethylene and/or propylene carbonate as the polar aprotic organic solvent and hexane, heptane, or octane as the non-polar aprotic organic solvent.

29. (New): A process according to claim 9, wherein the sulphur(VI) containing catalyst of the formula R^1SO_2OH used in the C-alkylation is present in an amount of from about 0.05 mol.% to about 0.1 mol.% based on the molar amount of phytol or isophytol, whichever is employed.

30. (New): A process according to claim 10, wherein the C-alkylation is effected at temperatures from about 80°C to about 150°C.

31. (New): A process according to claim 30, wherein the C-alkylation is effected at temperatures from about 100°C to about 127°C.

32. (New): A process according to claim 13, wherein the polar aprotic organic solvent is selected from the group consisting of an aliphatic or cyclic ketone; an aliphatic or cyclic ester; a dialkyl or alkylene carbonate; and a dialkylformamide.

33. (New): A process according to claim 32, wherein the aliphatic or cyclic ketone is diethyl ketone, isobutyl methyl ketone, cyclopentanone, or isophorone; the aliphatic or cyclic ester is ethyl acetate, isopropyl acetate, or γ -butyrolactone; the dialkyl or alkylene carbonate is dimethyl carbonate, diethyl carbonate, ethylene carbonate, or propylene carbonate; and the dialkylformamide is dimethylformamide or dibutylformamide.

34. (New): A process according to claim 14, wherein the base for the O-alkylation is used in a molar excess of about 5 to about 30% relative to the amount of 2,3,6-trimethylhydroquinone-1-acetate.

35. (New): A process according to claim 34, wherein the base for the O-alkylation is used in a molar excess of about 10 to about 20% relative to the amount of 2,3,6-trimethylhydroquinone-1-acetate.

36. (New): A process according to claim 15, wherein the O-alkylation is effected at temperatures from about -10°C to about $+15^{\circ}\text{C}$.

37. (New): A process according to claim 1, wherein the O-alkylation is effected at temperatures from about 100°C to about 127°C .